

SRNT

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DOCUMENT-IDENTIFIER: US 4545119 A  
 TITLE: Method of manufacturing a printed circuit board

## DEPR:

An eyelet 4 is inserted into the above-mentioned through hole by means of manual operation or automatic machine, and then caulked thereto, letting the flanges 42 and 42 overlap on the lands 2a and 2a. The eyelet 4 employed in the present embodiment is of cylindrical shape with its outer diameter being approximately 1 mm, the diameter of both flanges 41 and 42 being approximately 1.5 mm. The eyelet 4 is preferably of the same material with the conductive pattern 2 and the thickness thereof is suitably 10-100  $\mu$ m. When the thickness of eyelet comes in less than 10  $\mu$ m, the eyelet itself is difficult to be made, and when the thickness exceeds 100  $\mu$ m, the eyelet is unsuitable because of an increase in the amount of energy required for joining it to the conductive pattern by means of ultrasonic welding. Other than the eyelet made of copper, those made of aluminum, brass or the like are commercially available for use. Those made of soft materials are preferable for the eyelet. And an annealed eyelet is convenient for caulking and ultrasonic welding.

## DEPR:

In case when the metallic connections were made between the brass eyelets and the conductive pattern at a hundred locations by the method in accordance with the present invention, the electric resistance between the eyelet and the conductive pattern had scarcely any scattered effect in value, showing the values at 3-4 m.OMEGA.. This is by far better in

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FIG.1

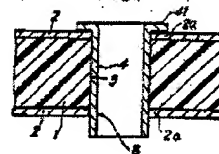
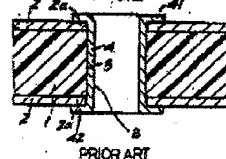


FIG.2



PRIOR ART